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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,629	01/30/2006	Audun Opem	43315-219115	2902

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EXAMINER	
JARRETT, RYAN A	
ART UNIT	PAPER NUMBER
2121	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,629	OPEM ET AL.	
	Examiner	Art Unit	
	Ryan A. Jarrett	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06/27/08*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Different Examiner

It is noted that this case has been assigned to a new examiner. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

Response to Arguments

Applicant's amendments and accompanying comments, see page 7, filed 06/27/08, with respect to claims 1 and 15 have been fully considered and are persuasive. The rejection of claims 1 and 15 under 35 U.S.C. 112 2nd paragraph has been withdrawn.

Applicant's arguments, see pages 7-9, filed 06/27/08, with respect to the rejection of claims 1 and 20 under 35 U.S.C. 102(e) as being anticipated by Scott et al. US 6,975,966 have been fully considered but they are not persuasive. Applicant argues that Scott does not disclose attaching a safety-hardware unit to a single controller, but then states that Scott discloses a safety system that is physically and logically integrated with a process control system. The distinction is lost upon the office. Applicant also references instant Fig. 3, and standard IEC 61508 on page 8 of the arguments. However, it is the claims and only the claims that form the metes and bounds of the invention. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Scott et al. US 6,975,966 ("Scott").

Regarding claim 1

Scott teaches "A method to increase a safety integrity level of a single controller for control of real world objects" (e.g. col. 1 lines 15-42), "the method comprising: attaching to. the single controller a safety-hardware unit wherein the safety-hardware unit communicates with a central processing unit of the single controller" (e.g. col. 6 in particularly lines 29-33 and 47-54), "downloading safety-related configuration data and/or diagnostic information to the attached safety-hardware unit and downloading a control function software to the single controller" (e.g. col. 10 lines 46- 67 and col. 11 lines 1-2 l), "configuring the attached safety-hardware unit to execute logic, which depends on the downloaded safety-related configuration data and/or diagnostic information, and actively or passively setting output values of the single controller to a safe state for online safety control" (e.g. col. 10 line 46 to col. 11 line 21, col. 14 line 55 to col. 15 line 23, and col. 18 lines 22-37).

Regarding claim 15

Scott teaches "A single or 1-channel control system intended for safety-related control of real world objects" (e.g. col. 1 lines 15-42), "comprising: a single main central processing unit handling main processes of a controller" (e.g. col. 6 lines 9-23), "a safety-hardware unit attached to said controller, the safety-hardware unit comprising means to increase a safety-integrity level of the controller and comprising means to set output values of the controller in a safe state for online safety control" (e.g. col. 6 in particularly lines 29-33 and 47-54).

Regarding claim 2

Scott teaches the method according to claim 1, wherein the controller has the capability of executing a set of non-safety critical control functions, which set of non-safety critical control functions is the same before as well as after the safety hardware unit is attached (e.g. col. 6 lines 9-23).

Regarding claim 3

Scott teaches the method according to claim 2, wherein the configuring comprises: downloading to the attached safety hardware unit diagnostic information, which previously was automatically generated by a software tool as a result of user's configuration of the controller and which diagnostic information is used in the attached safety hardware unit during safety critical control (e.g. col. 13 lines 3 1-44).

Regarding claim 4

Scott teaches the method according to claim 1, wherein access to a plurality of input and output values of a real world object is obtained through a bus connected between the controller and to an input/output unit and the validity of the bus communication is verified in the attached safety hardware unit (e.g. col. 3 1 lines 50-67).

Regarding claim 5

Scott teaches the method according to claim 1, wherein the timing supervision of the controller is verified in the attached safety hardware unit (e.g. col. 32 lines 38-56).

Regarding claim 6

Scott teaches the method according to claim 1, wherein correct sequence of code logic is verified in the attached safety hardware unit (e.g. col. 9 lines 1-29).

Regarding claim 7

Scott teaches the method according to claim 1, wherein correctness of memory content of the controller is verified in the attached safety hardware unit (e.g. col. 12 lines 5 1-58).

Regarding claim 8

Scott teaches the method according to claim 1, wherein a download of new control functionality logic to the controller is verified in the attached safety hardware unit (e.g. col. 12 lines 14-50).

Regarding claim 9

Scott teaches the method according to claim 1, wherein the attached safety hardware unit performs checks in order to allow only users logged on as safety classified engineers and safety classified operators to modify the control functionality logic and parameters (e.g. col. 18 lines 8-37).

Regarding claim 10

Scott teaches the method according to claim 4, wherein the bus communication verification logic in the attached safety hardware unit is implemented diverse (e.g. col. 20 lines 2 1-44).

Regarding claim 11

Scott teaches the method according to claim 4, wherein the attached safety hardware unit is diverse generating a safety related header for the bus communication (e.g. col. 9 line 64 to col. 10 line 16).

Regarding claim 12

Scott teaches the method according to claim 11, wherein the input/output unit has two diverse implementations each verifying the correctness of the bus traffic and each generating a safety related header for the bus communication (e.g. col. 21 line 62 to col. 22 line 17).

Regarding claim 13

Scott teaches the method according to claim 1, wherein the attached safety hardware unit comprises a first and a second module in a redundant configuration, the second module is

updated with data that exists first module at the time of a failure and the second module takes over the safety related control of the control system from the first module if a failure of the first module is detected (e.g. col. 8 lines 18-25 and lines 47-67).

Regarding claim 14

Scott teaches the method according to claim 13, wherein the redundant controller unit is attached to the controller, which takes over in case of a failure of a primary controller and the redundant controller unit establish communication with either the active first module or the active second module of the attached safety hardware unit (e.g. col. 9 lines 1 - 14 and lines 30-63).

Regarding claim 16

Scott teaches the control system according to claim 15, wherein the controller has the capability of executing a set of non-safety critical control functions, which set of non-safety critical control functions is the same before as well as after the safety hardware unit is attached (e.g. col. 6 lines 9-23).

Regarding claim 17

Scott 'teaches the control system according to claim 16, further comprising: means for downloading to the attached safety hardware unit diagnostic information, which previously was automatically generated by a software tool as a result of user's configuration of the controller and which diagnostic information is used in the attached safety hardware unit during safety critical control (e.g. col. 13 lines 3 1-44).

Regarding claim 18

Scott teaches the control system according to claim 17, further comprising: an input/output unit connected to the controller by a bus and the validity of the bus communication is verified in the attached safety hardware unit (e.g. col. 3 1 lines 50-67).

Regarding claim 19

Scott teaches the control system according to claim 18, wherein the bus communication verification logic in the attached safety hardware unit is implemented diverse (e.g. col. 20 lines 21-44).

Regarding claim 20

Scott teaches the control system according to claim 19, wherein the attached safety hardware unit is diverse generating a safety related header for the bus communication (e.g. col. 9 line 64 to col. 10 line 16).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ryan A. Jarrett/
Primary Examiner, Art Unit 2121

08/02/08